**Previous knowledge from G9:**

20.4 – Explain the reflection of sound and light in terms of waves

(reflection vs absorption)

20.1 – Know that energy can be transmitted … … in the form of waves.

(light travels in straight lines)

20.5 – Explain the refraction of light … in terms of the change of velocity of the waves.

20.6 – Know that the electromagnetic spectrum …forms of the same radiation and each part … has different properties and applications.

20.7 – Know that velocity of all EM radiation in a vacuum is the same

***Lesson plan:***

Learning intentions/success criteria:

*Standard 29.1: Know that light travels in straight lines and can be reflected by plane surface, and explain how images are formed in plane mirrors. Explain common applications of this phenomenon.*

The students will know the following terms:

* Plane mirror
* Normal
* Ray
* Incident ray
* Reflected ray
* Angle of incidence
* Angle of reflection

Students will know that for a plane mirror, angle of incidence = angle of reflection

|  |  |
| --- | --- |
| **Time allocation (mins)** | **Description** |
| 15 | Formative assessment |
| 5 | Demo activity – bouncing balls |
| 20 | Hands-on activity – reflection in a plane mirror |
| 10 | Plenary – summary and homework  Homework: construct a working periscope & explain how it works |

# Reflection Labelling Practice

1. Using the following terms, label the diagram below. ( Plane Mirror, Normal, Angle of incidence, Angle of reflection, Incident light ray, Reflected light ray)



a)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

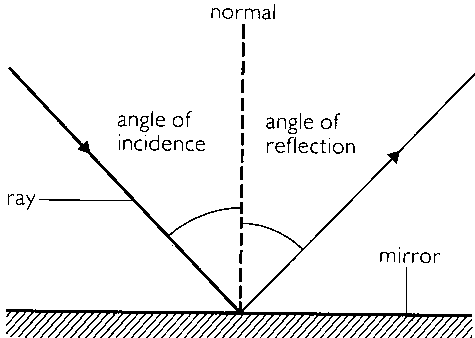
d)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. State the Law of reflection by filling in the gaps in the sentence below.

“ The angle of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the angle of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.”



**Formative assessment:**

**Question 1:**

Draw the reflection as it would appear in the mirror.

F

**Question 2:**

Can person A see person B?

**B**

**A**

Explain your answer:

**Question 3:**

List the colours of the spectrum:

**Question 4:**

(a)Why are plants green?

(b) Explain why a lump of coal appears black.

**Question 5:**

The nearest star to the Sun is 4.3 light years away. Explain what this means:

**Activity – bouncing balls**

Draw lines to show where the ball bounces in each example below:

(a)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(b)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(c)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_